

CLAIM AMENDMENT

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method of inducing formation of regenerable embryogenic cotton callus tissue comprising: obtaining a ~~from~~ non-embryogenic cotton callus tissue ~~derived~~ from a hypocotyl, transforming the non-embryogenic cotton callus tissue with an exogenous nucleic acid sequence, ~~comprising~~ culturing ~~said~~ the transformed non-embryogenic cotton callus tissue in a medium under dark lighting conditions of 0 $\mu\text{Einstein m}^{-2}\text{sec}^{-1}$, and obtaining regenerable embryogenic callus tissue therefrom.
- 2-6. (Canceled)
7. (Original) The method of claim 1, wherein the regenerable non-embryogenic cotton callus tissue is transformed.
8. (Currently amended) A method of inducing embryo[[s]]genic calli from a regenerable non-embryogenic cotton callus tissue comprising culturing said cotton callus tissue in an embryo inducing medium containing an amount of an antioxidant selected from the group consisting of activated charcoal, ascorbic acid, citric acid, cysteine hydrochloride, dithiothreitol, glutathione, mercaptoethanol, polyvinylpyrrolidone, polyvinylpolypyrrolidone, a sulfite salt, and vitamin E sufficient to promote embryogenesis.
9. (Canceled)
10. (Previously presented) The method of claim 8, wherein the antioxidant is ascorbic acid.
11. (Previously presented) The method of claim 10, wherein the concentration of the antioxidant in the in medium is between about 1 mg/L and about 1000 mg/L.
12. (Previously presented) The method of claim 11, wherein the concentration of the antioxidant in the medium is between about 10 mg/L and 100 mg/L.

13. (Original) The method of claim 8, wherein the regenerable non-embryogenic cotton callus tissue is transformed.
14. (Previously presented) A method of inducing formation of regenerable embryogenic cotton callus tissue from non-embryogenic cotton callus tissue comprising culturing said cotton callus tissue in a medium containing an amount of aminoethoxyvinylglycine sufficient to induce the formation of embryogenic cotton callus.
- 15-16. (Canceled)
17. (Previously presented) The method of claim 14, wherein the concentration of aminoethoxyvinylglycine in the media is between about 1 mM and about 100 mM.
18. (Previously presented) The method of claim 17, wherein the concentration of aminoethoxyvinylglycine in the medium is between about 3 mM and about 10 mM.
19. (Previously presented) The method of claim 14, wherein the regenerable non-embryogenic cotton callus tissue is transformed.
20. (Currently amended) A method of culturing transformed regenerable non-embryogenic cotton callus tissue comprising culturing said cotton callus tissue in a medium containing an antioxidant and an ethylene inhibitor under dark lighting conditions of $0 \mu\text{Einsteins m}^{-2}\text{sec}^{-1}$ to induce a regenerable embryogenic calli.
21. (Original) The method of claim 20, wherein the ethylene inhibitor is aminoethoxyvinylglycine.
22. (Original) The method of claim 20, wherein: the antioxidant is ascorbic acid; and the ethylene inhibitor is aminoethoxyvinylglycine.
- 23-25. (Canceled)
26. (Original) The method of claim 20, wherein the regenerable non-embryogenic cotton callus tissue is transformed.

27. (Original) The method of claim 20, wherein the regenerable non-embryogenic cotton callus tissue is derived from callus, hypocotyl, cotyledon, root, petiole, anther, or leaf.
- 28-30. (Canceled)
31. (Previously presented) A method of culturing transgenic cotton embryos comprising: culturing transformed regenerable non-embryogenic cotton callus tissue in a medium containing an antioxidant and an ethylene inhibitor under dark lighting conditions of 0 $\mu\text{Einsteins m}^{-2}\text{sec}^{-1}$ to produce transgenic embryogenic cotton tissue; and culturing the transgenic embryogenic cotton tissue on an embryo maturation medium with a support matrix.
32. (Original) The method of claim 31, wherein the ethylene inhibitor is aminoethoxyvinylglycine.
33. (Original) The method of claim 31, wherein: the antioxidant is ascorbic acid; and the ethylene inhibitor is aminoethoxyvinylglycine.
34. (Canceled)
35. (Original) The method of claim 31, wherein the support matrix is filter paper.
36. (Currently amended) A method of culturing regenerable transgenic embryogenic cotton tissue comprising culturing said cotton tissue in a medium containing an amino acid hydrolysate supplement.
37. (Previously presented) The method of claim 36, wherein the concentration of the amino acid supplement in the medium is between about 10 mg/L and about 500 mg/L.
38. (Previously presented) The method of claim 37, wherein the concentration of the amino acid supplement in the medium is between about 50 mg/L and about 150 mg/L.

39. (Previously presented) A method of culturing regenerable non-embryogenic cotton callus tissue comprising culturing said cotton callus tissue in a medium containing an antioxidant and an ethylene inhibitor under dark lighting conditions of $0 \mu\text{Einsteins m}^{-2}\text{sec}^{-1}$ to produce embryogenic cotton tissue; and culturing the embryogenic cotton tissue in a medium containing a support matrix and an amino acid hydrolysate supplement.
40. (Original) The method of claim 39, wherein the ethylene inhibitor is aminoethoxyvinylglycine.
41. (Original) The method of claim 39, wherein the antioxidant is ascorbic acid; and the ethylene inhibitor is aminoethoxyvinylglycine.
42. (Canceled)
43. (Original) The method of claim 39, wherein the support matrix is filter paper.
44. (Previously presented) The method of claim 39, wherein the concentration of the amino acid supplement in the medium is between about 10 mg/L and about 500 mg/L.
45. (Currently amended) A method of culturing regenerable transgenic embryogenic cotton tissue comprising culturing said embryogenic cotton tissue under dark lighting conditions of $0 \mu\text{Einsteins m}^{-2}\text{sec}^{-1}$ and wrapped with a sealing material.
- 46-48. (Canceled)
49. (Previously presented) The method of claim 45, wherein the sealing material is laboratory film.
50. (Previously presented) A method of culturing regenerable non-embryogenic cotton callus tissue comprising culturing said cotton callus tissue in a medium containing an antioxidant and an ethylene inhibitor under dark lighting conditions of $0 \mu\text{Einsteins m}^{-2}\text{sec}^{-1}$ to produce embryogenic cotton tissue; and culturing the embryogenic cotton tissue in a medium containing a support matrix and an amino acid hydrolysate supplement under dark lighting conditions, limited lighting conditions or under green light and wrapped with a sealing material.

51. (Original) The method of claim 50, wherein the ethylene inhibitor is aminoethoxyvinylglycine.
52. (Original) The method of claim 50, wherein the antioxidant is ascorbic acid; and the ethylene inhibitor is aminoethoxyvinylglycine.
53. (Canceled)
54. (Original) The method of claim 50, wherein the support matrix is filter paper.
- 55- 58. (Canceled)